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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,176	01/11/2002	Murray Robert Dunn	260.3	4661

7590

02/26/2004

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La Jolla, CA 92038

EXAMINER

FINEMAN, LEE A

ART UNIT	PAPER NUMBER
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2872

DATE MAILED: 02/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

KID

Office Action Summary	Application No. 10/045,176	Applicant(s) DUNN ET AL.	
	Examiner Lee Fineman	Art Unit 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to an amendment filed 21 November 2003 in which claims 1-2, 8 and 14 were amended and claim 21 was cancelled. Claims 1-20 are pending.

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 128 and 129 **in fig. 12**. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 5, 7-9, 11, 14, and 16-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Braig et al., U.S. Patent No. 6,095,986.

Regarding claim 1, Braig et al. discloses a barrier and Mid-IR optical window (fig. 3A) for a free space optical system comprising at least one frame member (50) and at least one thin film (100), a first frame member forming a closed loop structure (waist section of 50) about a substantially open aperture (90) further having a receiving bonding surface (flat portion of waist section 50) upon which a first thin film (100) may be received and bonded whereby said first thin

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film is affixed to said first frame and extends over the open aperture to form a taut, substantially flat surface (fig 3B, column 10, lines 62-64).

Regarding claims 2, 3, 5, and 7, Braig et al. further discloses said first frame (fig. 5) further comprises a mechanical coupling means (170) whereby said frame may be coupled to an optics head enclosure housing (160) and said mechanical coupling means is a frame shape and size which cooperates with a receiving cavity of an enclosure housing whereby changing a window is a matter of simple manipulation of parts (fig. 5), and said thin film is a polymer type material (column 8, lines 53-59) comprising molecules in a stressed state whereby polymer molecules are subject to a relaxing force which tends to pull the film taut in a shrinking action and are stretched from their relaxed state and exert a force on the thin film whereby the thin film tends to be pulled into a plane (column 12, lines 38-47) and said thin film is bonded to said frame by an adhesive compatible with frame material and polymer material (column 10, line 37).

Regarding claim 8, Braig et al. further discloses said window is comprised of two frames (fig. 5, 170) and two thin film members (180) separated spatially by a body member (150).

Regarding claims 9 and 11, Braig et al. further discloses a condensation control means (surfactant) in spatial proximity to said thin film whereby condensation on the thin film is reduced (column 9, lines 1-38) and where the condensation control means is a heating element (column 11, lines 27-31).

Regarding claims 14, and 16-18, the method of utilizing the structure of claims 1-3, 5, and 7-10 is inherent therein.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4, 6 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braig et al.

Regarding claims 4 and 19, Braig et al. discloses the claimed invention, as set forth above, except for the bond between the thin film and the frame member being a plastic weld heat bond. Braig teaches using plastic weld heat bond between the frame member and the body (column 12, lines 47-51). It would have been obvious to one of ordinary skill in the art at the time the invention was made to bond the thin film to the frame member using a plastic weld head bond to provide an airtight seal. The method of utilizing the structure of claim 4 is inherent therein.

Regarding claim 6, Braig et al. further discloses that the optical window may be circular (fig. 6, 200). Braig et al. discloses the claimed invention, as set forth above, except for the mechanical coupling means being a thread set complementary with an enclosure head. Official Notice is taken that a thread set complementary with an enclosure head is well known in the art as a fastening means (as evidenced by Taguchi, U.S. Patent No. 4,615,333). It would have been obvious to one of ordinary skill in the art at the time the invention was made to fasten the window to the enclosure head in the system of Braig et al. by a thread set to provide a quick and easy way to remove the window.

6. Claims 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braig et al. in view of Fujisawa et al., U.S. Patent No. 6,444,898 B1.

Braig et al. discloses the claimed invention, as set forth above, except for the condensation means being a desiccant reservoir or a dehumidifier. Fujisawa et al. teaches two windows with a space between them (fig. 5) with a desiccant reservoir (67) in it. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a desiccant reservoir, which is a dehumidifier, of Fujisawa et al. in the system of Braig et al. to reduce the moisture in the housing.

7. Claims 13, 15 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braig et al. in view of Rogers, U.S. Patent No. 6,118,583 and Pedrotti, et al., Introduction to Optics, 1993, Prentice Hall, Inc., Second Ed., pp. 396-398.

Braig et al. discloses the claimed invention, as set forth above, except for the finished thin film thickness being a thickness about an odd integer number of quarter wavelengths of a design pass wavelength. Rogers teaches an optical system in the mid-IR range with a window barrier (column 3, line 47-column 4, line 5), where the thickness of the window is an odd integer of the design pass wavelength (column 4, lines 11-19) to reduce reflection in the system. Pedrotti, et al. teaches that a film of an odd integer number of quarter wavelengths provides maximum reduction of reflectance (pg. 397). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the final thickness of the film of Braig et al.

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to be that of an odd integer number of quarter wavelengths to provide maximum reduction of reflectance as suggested by Rogers and Pedrotti, et al.

Response to Arguments

8. Applicant's arguments filed 21 November 2003 have been fully considered but they are not persuasive.

Applicant argues in 102-1)A.I. that Braig et al. is not enabling and teaches away from a thin film window because thick windows with antifog materials are acceptable. The examiner respectfully disagrees. In the applicant's specification on page 6, lines 27-28, the applicant defines a thin film as a polymer sheet material of thickness no greater than one eighth of one inch. Braig et al., in column 8, lines 53-59, defines the window as a plastic of a thickness on the order of 0.0001 inch, which is clearly within a thin film as defined by the applicant. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., to avoid wrinkling) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant argues in 102-1)A.II. that the Braig et al. disclosure amounts to a failed experiment because the frame is not circular in cross section and therefore would leave wrinkles and cannot be uniform. The examiner respectfully disagrees. In fig. 6c, Braig et al. clearly shows a circular frame (210), therefore assuring constant forces and uniformity. Further, it is again

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noted that the features upon which applicant relies (i.e., wrinkling) are not recited in the rejected claim(s).

Applicant argues in 102-1)B. that Braig et al. does not disclose every element as claimed. The examiner respectfully disagrees. In claim 1, the applicant argues that element (50) of Braig et al. is frame member. A definition of frame in Merriam-Webster's Collegiate Dictionary, Tenth Edition is "an open case or structure made for admitting, enclosing, or supporting something" which clearly element 50 of Braig et al. does. Further, it is noted that the applicant also refers to the element in Braig et al. as a frame in the arguments presented on page 12, line 22. In claim 2, applicant argues there is no structure of a mechanical coupling means that provides that the frame is coupled to an optics head is disclosed. As outlined in the rejection, Braig et al. clearly discloses said first frame (fig. 5) further comprises a mechanical coupling means (170) whereby said frame may be coupled to an optics head enclosure housing (160). Applicant argues that the desiccant reservoir of claim 10 was not illustrated in the 102 rejection. The examiner apologizes for the typographical error, 10 should have been 11 in the 102 rejection, as clearly evidenced by reference to the condensation control means being a heating element of claim 11 and further, the desiccant reservoir of claim 10 being treated in a subsequent 103 rejection. Regarding claims 14 and 16-18, applicant argues that the claims have been asserted to be inherent without a showing of such. The examiner respectfully disagrees. The examiner stated that the method of utilizing the structure is inherent. For example, in claim 18, the method step is applying an adhesive material between the frame and the thin film and allowing it to cure. Since Braig et al. discloses the structure of a frame, a thin film and an adhesive between them, it is inherent that the adhesive must have applied between the other two and allowed to cure to provide the adhesion.

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Applicant argues in 103-1)A)I) that the reference is not reasonably pertinent and specifically that Braig et al. is not an optics head or optical element or optical system and does not apply to the applicants invention of "barriers for optical heads in gaseous atmospheres." The examiner respectfully disagrees. As stated in column 1, lines 27-31 and lines 45-48 and in column 3, line 62-column 4, line 2, the device of Braig is used for the optical study of air/gas analysis and the window provides a barrier to optically measure that air/gas.

Applicant argues in 103-1)B)I) and 103-1)C that the 103 rejections are improper. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found **either in the references themselves or in the knowledge generally available to one of ordinary skill in the art.** See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, regarding claim 4, Braig et al. suggests using a plastic weld heat bond between the frame member and the body (column 12, lines 47-51). Regarding claim 6, the examiner uses the suggestion that threaded members are very well known to be used as a fastener.

Applicant argues in 103-2)A), technical differences between the prior art and the applicants claimed invention. The examiner notes that the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have

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suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Regarding claim 19, see the comments above in reference to claims 14 and 16-18.

In 103-3), applicant requested evidence of examiner's Official Notice statement that threaded member fasteners are well known. Taguchi, U.S. Patent No. 4,615,333 demonstrates in fig. 1 the use of threaded members fasteners.

9. It is noted by the Examiner that the specification and claim objections made in the previous Office Action have been withdrawn due to amendment by the Applicant.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

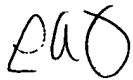
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lee Fineman whose telephone number is (571) 272-2313. The examiner can normally be reached on Monday - Friday 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571) 272-23124. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4900.



LAF

January 29, 2004


MARK A. ROBINSON
PRIMARY EXAMINER